



November 13 to November 19, 2011 (Week 46)

Overall Influenza Summary

- Influenza activity in Canada remains low
- Five regions (within BC, AB & QC) reported sporadic influenza activity
- In week 46, 10 laboratory detections of influenza were reported (3 A/H3, 1 A/H1, 4 A unsubtype and 2 B)
- One influenza-associated paediatric hospitalization was reported from QC
- The national ILI consultation rate remains low

Novel Influenza A Virus

- Limited human-to-human transmission of swine-origin influenza A(H3N2) virus in children in Iowa was reported by the US CDC

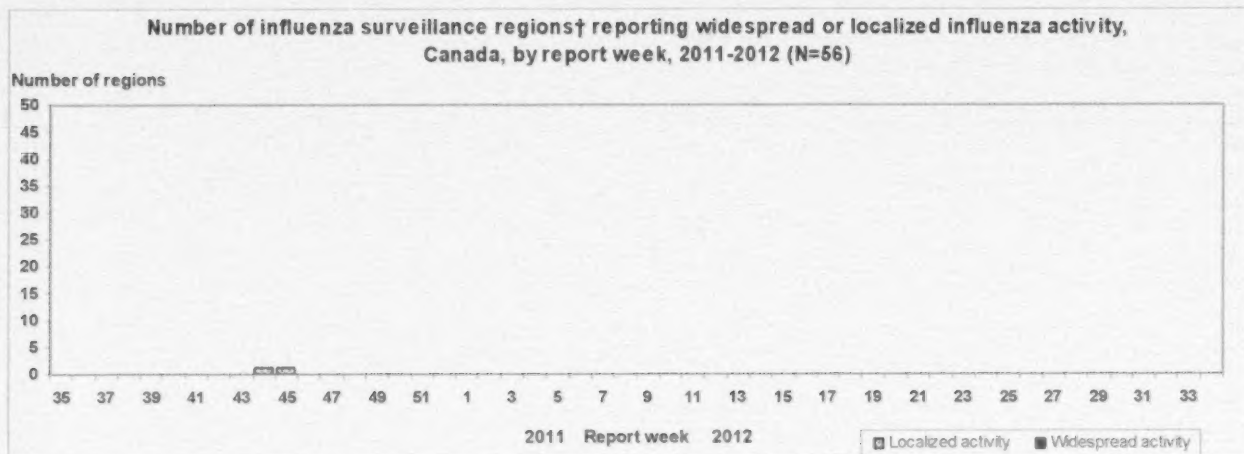
Influenza Activity and Outbreaks

In week 46, five surveillance regions within BC, AB, and QC reported sporadic influenza activity (see Activity level Map). No outbreaks of influenza or ILI were reported this week.

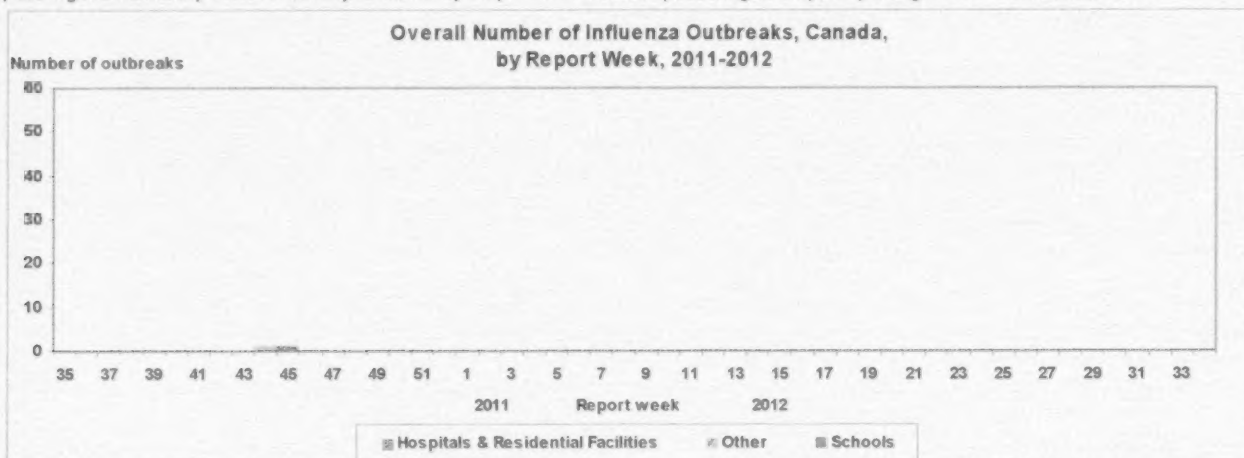
Map of overall Influenza activity level by province and territory, Canada, Week 46



Note: Influenza activity levels, as represented on this map, are assigned and reported by Provincial and Territorial Ministries of Health, based on laboratory confirmations, sentinel ILI rates (see graphs and tables) and reported outbreaks. Please refer to detailed definitions on the last page. For areas where no data is reported, late reports from these provinces and territories will appear on the FluWatch website.

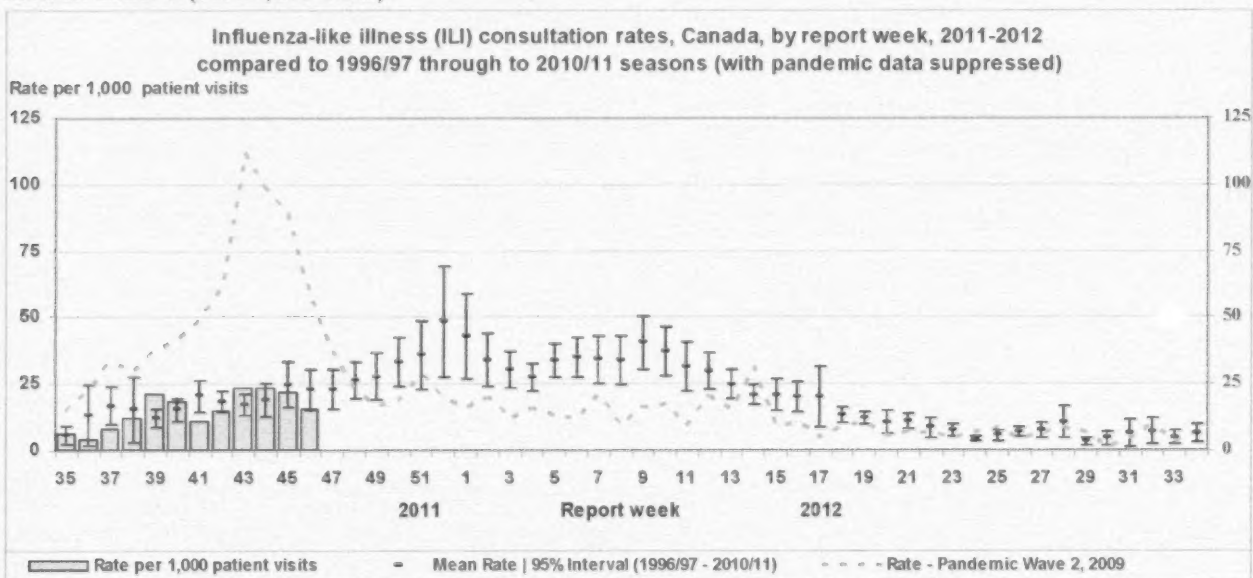


† sub-regions within the province or territory as defined by the provincial/territorial epidemiologist. Graph may change as late returns come in.



ILI consultation rate

The national ILI consultation rate declined to 15.7 consultations per 1,000 patient visits in week 46 which is within the expected levels for this time of year (see ILI graph). The highest consultation rate this week was observed in children under 5 (60.1/1,000 visits).



Note: No data available for mean rate in previous years for weeks 19 to 39 (1996-1997 through 2002-2003 seasons). Delays in the reporting of data may cause data to change retrospectively.

Laboratory Surveillance Summary

In week 46, 2,337 influenza tests were conducted of which 10 (0.4%) were positive for influenza. The proportion of tests positive for influenza has remained below 0.6% since the beginning of this season.

The proportion of influenza virus detections by type/subtype this season to date is as follows: 79.4% influenza A (60% - A(H3); 6% - A(H1N1)pdm09; 34% - unsubtype) and 20.6% influenza B.

In week 46, the proportion of tests positive for rhinoviruses (12.4%) continued to decline while the proportion of tests positive for RSV has increased in recent weeks (4.4%). The proportion of positive tests for the other respiratory viruses remained low (parainfluenza-6.2%; adenovirus-4.1%; hMPV-3.1%; coronavirus-1.0%) (see Respiratory Viruses graph). For more details, see the weekly [Respiratory Virus Detections in Canada report](#).

Weekly & Cumulative numbers of positive influenza specimens by Provincial Laboratories, Canada, 2011-2012

Reporting provinces	November 13 to November 19, 2011)						Cumulative (August 28, 2011 to November 19, 2011)					
	Influenza A					B	Influenza A					B
	A Total	A(H1)	A(H3)	Pand H1N1	A (UnS)*	Total	A Total	A(H1)	A(H3)	Pand H1N1	A (UnS)*	Total
BC	3	0	3	0	0	0	18	0	18	0	0	2
AB	0	0	0	0	0	0	11	0	9	1	1	1
SK	0	0	0	0	0	0	0	0	0	0	0	0
MB	0	0	0	0	0	0	0	0	0	0	0	0
ON	0	0	0	0	0	1	3	0	3	0	0	1
QC	5	0	0	1	4	1	18	0	0	2	16	9
NB	0	0	0	0	0	0	0	0	0	0	0	0
NS	0	0	0	0	0	0	0	0	0	0	0	0
PE	0	0	0	0	0	0	0	0	0	0	0	0
NL	0	0	0	0	0	0	0	0	0	0	0	0
Canada	8	0	3	1	4	2	50	0	30	3	17	13

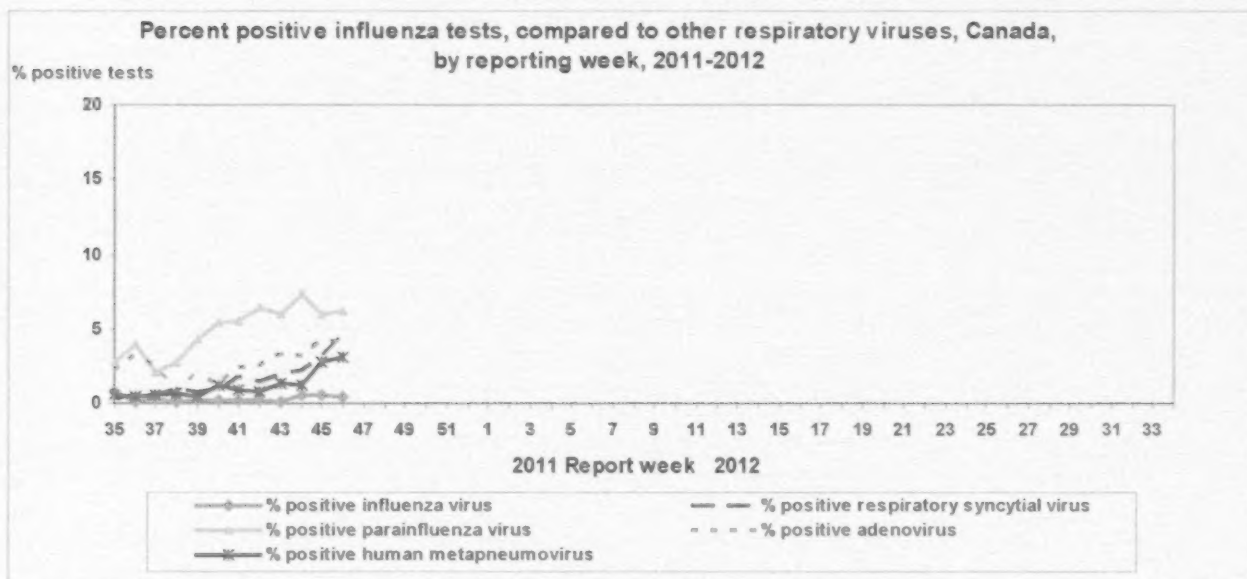
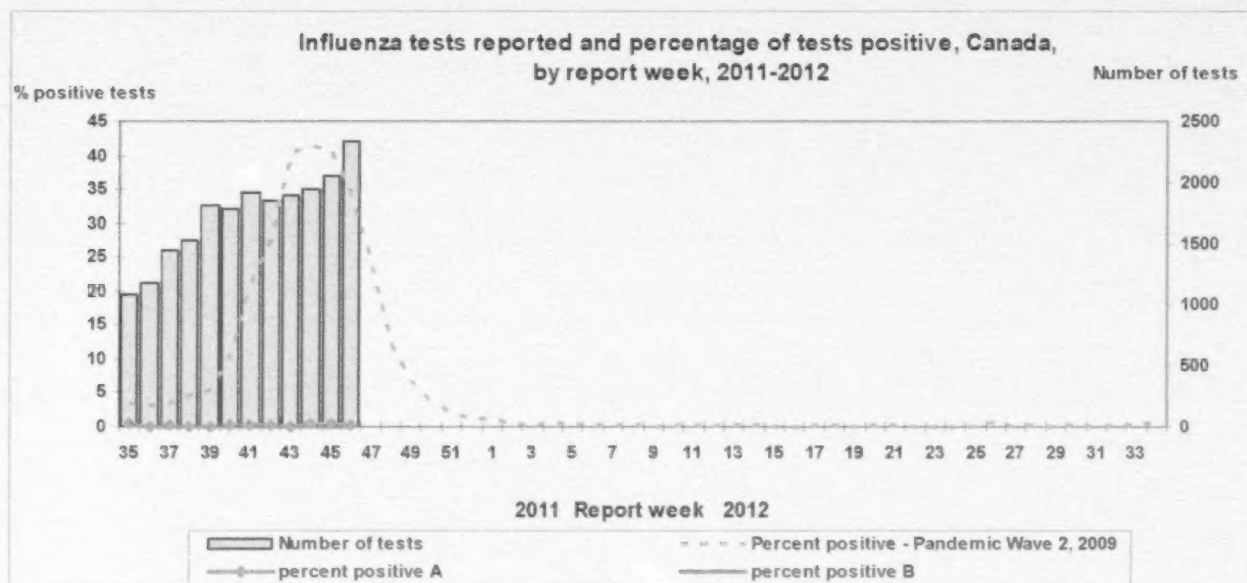
*Unsubtyped: The specimen was typed as influenza A, but no test for subtyping was performed. Specimens from NT, YT, and NU are sent to reference laboratories in other provinces. Note: Cumulative data includes updates to previous weeks; due to reporting delays, the sum of weekly report totals do not add up to cumulative totals.

Weekly & Cumulative numbers of positive influenza specimens by age groups reported through case-based laboratory reporting, Canada, 2011-2012*

Age groups	Weekly (Nov. 13 to Nov. 19, 2011)					Cumulative (Aug. 28, 2011 to Nov. 19, 2011)				
	Influenza A				B	Influenza A				B
	A Total	Pandemic H1N1	A/H3N2	A unsubtype	Total	A Total	Pandemic H1N1	A/H3N2	A unsubtype	Total
<5	1	1	0	0	0	6	1	3	2	3
5-19	0	0	0	0	0	3	0	3	0	0
20-44	0	0	0	0	0	8	2	2	4	2
45-64	1	0	0	1	0	3	0	0	3	2
65+	1	0	0	1	1	6	0	3	3	2
Unknown	0	0	0	0	0	0	0	0	0	0
Total	3	1	0	2	1	26	3	11	12	9

*Please note that this table reflects the number of specimens for which demographic information was reported. These represent a subset of all positive influenza cases reported. Delays in the reporting of data may cause data to change retrospectively.

Detailed information on age and subtype were received on 35 cases this season to date. The proportions of cases by age group are as follows: 25.7% were < 5 years; 8.6% were between 5-19 years; 28.6% were between 20-44 years; 14.3% were between 45-64 years of age; and 22.9% were ≥ 65 years.



Antigenic Characterization

Since the start of the season, the National Microbiology Laboratory (NML) has antigenically characterized 12 influenza viruses (seven A/H3N2 and five B). All seven A/H3N2 viruses (from BC, AB & ON) are antigenically related to A/Perth/16/2009, which is the influenza A/H3N2 component recommended for the 2011-12 Northern Hemisphere influenza vaccine. Three of the influenza B viruses characterized (from AB & QC) are antigenically related to the vaccine strain B/Brisbane/60/2008 (Victoria lineage). The other two influenza B viruses (from BC) are antigenically related to the reference virus B/Wisconsin/01/2010-like, which belongs to the Yamagata lineage.

Antiviral Resistance

Since the beginning of the season, NML has tested 12 influenza viruses (seven A/H3N2 and five B) for resistance to oseltamivir (by phenotypic assay and/or sequencing) and for resistance to zanamivir (by phenotypic assay) and it was found that all 12 viruses were susceptible to oseltamivir and zanamivir. Seven A/H3N2 viruses were tested for amantadine resistance and all seven were found to be resistant.

Severe Illness Surveillance

Paediatric Influenza Hospitalizations and Deaths

In week 46, one new laboratory-confirmed influenza-associated paediatric (16 years of age and under) hospitalization was reported through the Immunization Monitoring Program Active (IMPACT) network. The case tested positive for influenza A(H1N1) virus infection.

Five cases have been reported this season to date (from BC, AB & QC); all of which were due to influenza A. The proportion of cases by age group is as follows: 20% among infants <6 months of age; 40% were between 2-4 years; 20% were between 5-9 years; and 20% were between 10-16 years.

International influenza update

No new influenza updates were reported by the WHO since November 18, 2011.

World Health Organization influenza update

PAHO: In week 45, influenza activity remained low in North America. In Central America and the Caribbean, the predominance of RSV continued in several countries, including circulation of influenza A(H1N1)pdm09, influenza A/H3N2 and influenza B. In the Southern Cone, influenza activity remained low with low circulation of influenza A(H1N1)pdm09 reported.

Pan American Health Organization influenza situation report

United States: In week 45, the CDC reported that 1.4% (30/2,145) of influenza tests were positive. Since October 1, 2011, the CDC characterized 12 influenza viruses: 11 A/H3N2 and 1 B. All 11 influenza A/H3N2 viruses were A/Perth/16/2009-like. The influenza B virus was characterized as B/Brisbane/60/2008-like. National and regional proportions of visits due to ILI were below baseline levels. Regions that reported geographic spread of influenza indicated sporadic activity at most.

Centers for Disease Control and Prevention seasonal influenza report

Novel Influenza A Virus: On November 23, 2011, the CDC confirmed three new cases of swine-origin influenza A(H3N2) virus infection in children from Iowa. None of the children were hospitalized, and each has recovered from a mild episode of febrile respiratory illness. Unlike previously reported swine-origin A(H3N2) cases where exposure to swine was identified in the patient or in a close contact of the patient, these three new cases have no known recent exposure to swine. Preliminary evidence suggests that limited human-to-human transmission of this novel influenza virus may have occurred in these three children and there is no evidence of ongoing transmission among humans. More detailed information on the cases can be found in the *Morbidity and Mortality Weekly Report*.

Europe: In week 46, levels of influenza activity in Europe remained low. Of the 41 countries reporting on geographical distribution of influenza activity, one country (the Netherlands) reported local activity and 7 countries reported sporadic spread. Out of 41 countries reporting on trends, 10 reported increasing trends. All countries reported low intensity of influenza activity and low impact on their health care services. Twelve of the 734 (1.6%) specimens tested were positive for influenza virus: 8 influenza A viruses and 4 influenza B viruses. Since week 40, 5 influenza viruses have been characterized antigenically: 2 were A/California/7/2009 (H1N1)-like; 1 was A/Perth/16/2009 (H3N2)-like; 1 was B/Florida/4/2006-like (B/Yamagata/16/88 lineage), and 1 was B/Brisbane/60/2008-like (B/Victoria/2/87 lineage).

EuroFlu weekly electronic bulletin

FluWatch reports include data and information from the following sources: laboratory reports of positive influenza tests in Canada (National Microbiology Laboratory), sentinel physician reporting of influenza-like illness (ILI), provincial/territorial assessment of influenza activity based on various indicators, including laboratory surveillance, ILI reporting, and outbreaks, influenza-associated paediatric and adult hospitalizations, antiviral sales in Canada, and WHO and other international reports of influenza activity.

Abbreviations: Newfoundland/Labrador (NL), Prince Edward Island (PE), New Brunswick (NB), Nova Scotia (NS), Quebec (QC), Ontario (ON), Manitoba (MB), Saskatchewan (SK), Alberta (AB), British Columbia (BC), Yukon (YT), Northwest Territories (NT), Nunavut (NU).

ILI definition for the 2011-2012 season

ILI in the general population: Acute onset of respiratory illness with fever and cough and with one or more of the following - sore throat, arthralgia, myalgia, or prostration which is likely due to influenza. In children under 5, gastrointestinal symptoms may also be present. In patients under 5 or 65 and older, fever may not be prominent.

Definitions of ILI/Influenza outbreaks for the 2011-2012 season

Schools: Greater than 10% absenteeism (or absenteeism that is higher (e.g. >5-10%) than expected level as determined by school or public health authority) which is likely due to ILI. Note: it is recommended that ILI school outbreaks be laboratory confirmed at the beginning of influenza season as it may be the first indication of community transmission in an area.

Hospitals and residential institutions: two or more cases of ILI within a seven-day period, including at least one laboratory confirmed case. Institutional outbreaks should be reported within 24 hours of identification. Residential institutions include but not limited to long-term care facilities (LTCF) and prisons.

Other settings: two or more cases of ILI within a seven-day period, including at least one laboratory confirmed case; i.e. workplace, closed communities.

Influenza Activity Levels Definition for the 2011-2012 season

Influenza Regional Activity levels are defined as:

1 = No activity: no laboratory-confirmed influenza detections in the reporting week, however, sporadically occurring ILI may be reported
2 = Sporadic: sporadically occurring ILI and lab confirmed influenza detection(s) with **no outbreaks** detected within the influenza surveillance region†

3 = Localized: (1) evidence of increased ILI* and
(2) lab confirmed influenza detection(s) together with
(3) **outbreaks** in schools, hospitals, residential institutions and/or other types of facilities occurring in **less than 50% of the influenza surveillance region†**

4 = Widespread: (1) evidence of increased ILI* and
(2) lab confirmed influenza detection(s) together with
(3) **outbreaks** in schools, hospitals, residential institutions and/or other types of facilities occurring in **greater than or equal to 50% of the influenza surveillance region†**

Note: ILI data may be reported through sentinel physicians, emergency room visits or health line telephone calls.

* More than just sporadic as determined by the provincial/territorial epidemiologist.

† Influenza surveillance regions within the province or territory as defined by the provincial/territorial epidemiologist.

We would like to thank all the Fluwatch surveillance partners who are participating in this year's influenza surveillance program.

This report is available on the Public Health Agency website at the following address: <http://www.phac-aspc.gc.ca/fluwatch/index.html>. Ce rapport est disponible dans les deux langues officielles. Pour en recevoir un exemplaire dans l'autre langue chaque semaine, veuillez communiquer avec Estelle Arseneault, Division de l'immunisation et des infections respiratoires au (613) 998-8862.